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## Short Article

# Cognitive profiles of children and young people in secure care

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### Abstract:

Children and young people in secure care often have significant vulnerabilities and can experience multiple adversities. Whether these are biological, psychological, or social in nature, the impact can be significant and traverse many domains of functioning, including cognitive skills. The ability to think, reason, learn, problem solve, pay attention, concentrate, remember, and communicate are essential life skills. Despite previous research documenting a link between trauma and cognitive impairment in looked after children and in young offender populations, there is a dearth of research specifically exploring the cognitive profiles of children in secure care. Furthermore, experience working in a secure care setting has exposed a tendency for professionals and care staff to attribute a higher level of skill and competency to young people who have not undergone any formal testing. Given the vulnerabilities of this group, it is critical that we understand and properly respond to their needs. One way to ensure that their cognitive profile is considered when designing their care plan, is to include formal cognitive testing as part of the assessment process. Having an accurate profile of areas of strength and weaknesses can ensure that care plans are properly tailored to maximise young people's outcomes.

## Introduction

International research has shown that children exposed to adverse childhood experiences (ACEs), who are looked after away from home, who are in secure care, and/or who perpetrate offences are, as a group, more likely to experience cognitive vulnerabilities (Hawkins et al., 2021; Kamath et al., 2017; McMillan et al., 2023; Van IJzendoorn et al., 2008). However, as of August 2023, it has been impossible to locate any publications specifically investigating the cognitive functioning of young people in secure care facilities in Scotland. Also, experience



of working across such settings has revealed a tendency for practitioners to often attribute high levels of skills to the children they were looking after. Statements such as 'extremely intelligent', 'academically able', and 'capable' have featured in many reports and professional discussions where there seemed to be little or no objective evidence to substantiate such claims. Indeed, it seemed more likely that the opposite was true, thereby raising the possibility that children with vulnerabilities had unrecognised, unmet, and misunderstood needs.

Since secure childcare is designed to meet the needs of some of the most vulnerable and marginalised children in the country, it is perplexing that this data does not exist. If we are to ensure that every effort is made to understand and support children who, by virtue of their risks, needs and vulnerabilities, are required to lose their liberty for varying periods of time during their formative years, it is vital that we do not miss any opportunity to gain a better understanding of how to help and to ensure that interventions are properly matched to their capacities and capabilities.

In summary and given what we know about other looked after populations, this article aims to explore the complex interplay of vulnerabilities that young people in secure care are likely to be subject to and how these vulnerabilities have been empirically linked to certain cognitive weaknesses. In response to this, the article introduces the notion of formal cognitive testing as an effective way to overcome cognitive barriers, given it has been helpful in reliably identifying and supporting the needs of other vulnerable populations. Finally, the article discusses certain practice observations made by the writer within a secure care setting, which could have negative implications on the progress of young people and which can also be resolved or at least mitigated through a better understanding of the young person's cognitive profile.

## Secure care

Every year, approximately 100,000 young people are being looked after by the state (NCCSP, 2021). The latest yearly average calculated in 2022 indicated that 74 young people were housed in secure care facilities across Scotland (there are four secure care facilities in Scotland with a capacity to accommodate around 84 children (Scottish Government, n.d.)).

Secure accommodation has been described by the Scottish government as a 'form of residential care that restricts the freedom of children under the age of 18. It is for the small number of children who may be a significant risk to themselves, or others in the community' (Scottish Government, n.d.). Children and young people are typically placed in secure care via the Children's Hearing System (when there is a welfare concern) or by the courts (when there are offending behaviour concerns). The government outlines the five main legislative routes that can lead to a secure care placement. Firstly, a secure care authorisation might be included in an order such as a compulsory supervision



order (CSO), or a warrant issued by the children's hearing system or the sheriff's court. Secondly, children who are looked after by the state or are subject to a permanence order could be placed in secure care in the context of an 'emergency placement' authorised by the Chief Social Work Officer (CSWO). In some limited circumstances, when a child is under the age of 16, or is between 16 and 17 years of age and has a CSO, the police can approve a temporary secure placement until the young person is due in court. In addition, young people who are under the age of 16 and are on remand by the court, are placed back in local authority care, which might decide to house them in secure care. Finally, a young person might also be transferred to secure when they are found guilty of an offence (as covered by section 44 of the criminal procedure act 1995 (Scottish Government, 2022)). Restricting the freedom of a young person is a very difficult decision, and one that should not be taken lightly. Thus, their time within secure care should be a period of intensive interventions that are instrumental in changing the course of their life.

Children who have experienced disrupted family, school and living arrangements have typically endured adversity and are at risk of experiencing difficulties in their development. Compared to other forms of residential care, the number of young people housed in secure care is small and not all countries have such facilities. Thus, research dedicated to these young people is somewhat limited. However, findings can be extrapolated from other looked after populations to inform understanding. It has been recognised for decades that multiple variables can impact outcomes for children, including factors inherent within them and their environments, as well as interactions between the two (Bronfenbrenner, 1979). Thus, their current presentation is likely the result of a multifaceted interplay of biological, psychological, and environmental factors. As a result, many, if not most, of the young people housed in secure care have a complex combination of biopsychosocial vulnerabilities. Young people who are looked after have a higher prevalence of mental health problems in comparison to their same-age peers (Dubois-Comtois et al., 2021), with around half of them meeting the criteria for a diagnoseable condition (Carmichael et al., 2016). They also experience a high level of comorbidity when it comes to mental disorders (Jozefiak et al., 2016) and are more likely to be prescribed psychotropic medications (Raghavan et al., 2005). Studies have found that children cared for by the state have lower educational attainment (Sebba et al., 2015), are more likely to experience academic disruption (Mannay et al., 2017), have been exposed to adversity or trauma prior to entering care (CYCJ, 2021), and are likely to have been reared in low socioeconomic backgrounds, which in turn further compounded adversity (Bennett et al., 2022). Looked after young people have also been found to be more likely to be in conflict with the law (Biehal et al., 2010), show higher rates of risk-taking behaviours (Stevens et al., 2011), and are more susceptible to poor physical health outcomes (Selwyn et al., 2017). Finally, looked after young people have been repeatedly associated with comparatively poorer outcomes, like for instance unemployment, poverty,



offending, mental health difficulties, and becoming young parents (Naccarato et al., 2010; Svoboda et al., 2012). In summary, looked after young people are amongst the most vulnerable members of our society, partly due to the experiences that preceded their removal from home and partly to the multiple placements they are likely to face until they reach adulthood, which increases the risk of their needs remaining unrecognised and unmet. Combining the above allows for a taste of the complex, multifaceted interaction of factors contributing to the vulnerability of the looked after population that includes those housed in secure care.

## Cognitive capacities

The significance of these varied risk factors to cognitive development is borne out in the literature. For example, a recent longitudinal study by Hawkins and colleagues (Hawkins et al., 2021) reported that ACEs (i.e., stressful or traumatic life events such as abuse, neglect, exposure to domestic violence, parental separation, divorce, or living with a parent with substance abuse issues) directly contributed to poorer cognitive abilities, but importantly the different types of ACEs had varying impacts. For instance, deprivation type ACEs, which represent any form of neglect, have been found to specifically hinder memory and executive functioning in the long-term, thereby impeding language development amongst other cognitive functions (Hawkins et al., 2021). Moreover, the study concluded that ACEs that are of a threatening nature have been found to result in neurocognitive harm due to the continuous production of toxic stress which impacts internal biological systems (Hawkins et al., 2021). Surveys conducted amongst the secure care population in Scotland have suggested that on average young people have experienced at least four ACEs prior to entering secure care (CYCJ, 2021). Thus, considering young people's different types of ACEs is invaluable when designing care plans and implementing intervention approaches that consider cognitive profiles. Another important finding, particularly for young people sent to secure care via the courts, is the high prevalence of traumatic brain injury. A recent study by McMillan et al. (2023) found that 80% of young people assessed in His Majesty's Young Offenders Institution in Scotland had a history of significant brain injury and, as a group, these young people struggled more with controlling their behaviour and self-regulating. They also engaged in high-risk behaviour as well as demonstrating problematic substance use (McMillan et al., 2023).

Some further factors discussed in the literature - which have been found to be correlated with cognitive vulnerabilities - include comorbid mental health disorders (which looked after young people are more at risk of having), brain injury (which McMillan et al. [2023] noted is a common phenomenon in incarcerated youth), insecure attachment styles (which would be likely given secured young people's chaotic lifestyle (Ding et al., 2014)), and more.



Studies such as the above underscore the need to consider cognitive profiles and could explain why looked after young people have a higher prevalence of undetected communication, cognitive and language disorders (McCool & Stevens, 2011).

## **Creating opportunities for understanding**

Cognitive assessments are standardised, formal assessments that have been designed to measure a person's abilities compared to other people of the same age. Cognitive assessments are founded on longstanding empirical theories of cognitive development and typically evaluate a broad range of skills, such as verbal comprehension, verbal reasoning, abstract reasoning, attention, memory, executive function, problem solving, and visuospatial skills (McGrew, 2009). They are the result of extensive and repeated reliability and validity investigations. These assessments can be used for a variety of reasons and in various contexts, such as assessing whether a child is developing in an age and stage appropriate way, or the effects of any illnesses or injuries. These tests can provide detailed profiles of a young person's abilities across all the aforementioned areas (Kelso & Tadi, 2022). Thus, by administering these assessments professionals can gain insight into a person's overall functioning as well as their domain specific abilities, which often show a variable pattern of skills (e.g., if someone had a brain injury their domain specific performance might contribute to better understanding the location and extent of the damage).

A common theme in the literature seems to be that an effective way to support vulnerable young people is by completing a comprehensive and up to date assessment of their strengths and weaknesses (this can be reliably achieved via the completion of a cognitive assessment amongst other important tools such as observations, background information and more (Dawson & Guare, 2018; Kaul et al., 2021)). In addition, due to the biopsychosocial vulnerabilities that young people in secure are likely to present with, as discussed above, completing a comprehensive biopsychosocial assessment could be beneficial. Such assessments usually include an exploration of the young person's current functioning, which, again, can be understood using cognitive screening tools. Researchers suggest that such assessments contribute greatly to the appropriate design and tailoring of educational and rehabilitation programs for the young person (Chokron, 2021). The findings from such assessments could also assist in educating the people involved in the child's care regarding their specific needs (Chokron, 2021). As noted above, upon assessment young people who were looked after by the state, as well as those housed in secure care facilities in other countries (e.g., Australia; see Vidanka, 2009), have demonstrated certain cognitive difficulties (Fry et al., 2016). As such the inclusion of these assessments in secure care facilities could be helpful in identifying and combating these weaknesses.



In summary, due to the varied and complex histories of children and young people in secure care, understanding their domain specific abilities is invaluable in contributing to a clearer understanding of their strengths and weaknesses. This information can then be used within the multidisciplinary secure setting to ensure that the team around the child comprehends their cognitive profile (their unique set of strengths and weaknesses) and how these cognitive skills impact or drive their behaviour. For example, if a child has weaknesses in their working memory domain, staff should not assume they can retain and/or recall information previously communicated to them.

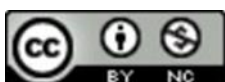
## **Creating opportunities for intervention**

When young people are in secure care, they are under constant supervision, they are kept safe, and they are exposed to positive stimuli (e.g., education or sports). These advantages mean that in a secure placement there is increased scope for reliable formal cognitive testing and interventions. The following recommendations pertain to the looked after populations housed in secure care facilities across Scotland.

## **Using the findings to effect change at the individual and systemic level**

By better understanding young people's cognitive profiles and their subsequent strengths and weaknesses we can adapt care to ensure that these factors are accounted for. This is because, with the right support, cognitive abilities can be optimised. For example, research has shown that working memory, which is an important determinant of a variety of cognitive functions, can be enhanced with mental exercises (Morrison & Chein, 2011). Even minor changes in the daily lives of young people can help enhance their cognitive abilities, such as engaging in physical activity, which has been empirically associated with improvements in educational attainment and cognitive functioning (Rasberry et al., 2011).

A sizeable literature exists which attests to the usefulness of making adaptations in the social, relational, and physical environment for young people who have cognitive difficulties. Various strategies have been recommended. For example, when young people identify an area of interest for them, staff can help expand their critical thinking and comprehension by questioning them about this topic. In addition, when a young person is expressing something, staff can encourage them to elaborate on their thoughts, thereby improving their language or verbal reasoning skills. Staff can also ensure young people have routines and predictability, encourage them to accumulate sufficient sleep, make sure they are paying attention prior to delivering instructions, and ask them to reiterate what has been discussed. If a young person is struggling to comprehend a topic, alternative aids can be used, like pictures or flow charts. Even modelling pro-





social problem solving to young people can be helpful. When communicating with young people, speaking slowly and clearly is of utmost importance as even if weaknesses have not been identified in this area, cross cultural accents or vocabulary might influence understanding. Recognising their strengths is also critical to their progress. Positively reinforcing good behaviour using a reward chart or providing casual compliments can encourage this behaviour to continue and increase whilst ensuring it does not cease.

## Supporting staff

In addition to direct interventions, having access to accurate cognitive profiles will ensure that staff are better informed and equipped to support young people. As indicated above, the tendency to misattribute skills to children and young people has been observed, and whilst this is merely anecdotal it is a potentially problematic phenomenon which could lead to unrealistic expectations being placed upon young people. This could, in turn, cause anxiety or frustration and contribute to behaviour problems or to the breakdown of relationships between young people and staff, as well as hindering young people's progress within secure care. Where cognitive assessments have been completed, staff may be debriefed to ensure their understanding of the young person's unique set of strengths and weaknesses. Training can also be offered which will inform staff of alternative techniques that can be used to help communicate information in a manner that compliments young people's abilities. Staff might also benefit from receiving input to better understand how particular cognitive strengths and weaknesses manifest. For example, a young person might become dysregulated after receiving a complex myriad of instructions due to not understanding what has been said. Staff might perceive this dysregulation as challenging behaviour, instead of a cognitive impairment. Conversely, the opposite can also happen, where young people who exhibit desired behaviours might be at risk of having their cognitive abilities overestimated. This could be a result of staff becoming acclimatised to many young people presenting with externalising conduct type behaviours and thereby perceiving those who don't as more able. Studies have found that residential care workers are more likely to recognise a problem if it co-occurs with problematic behaviours (Winsor & McLean, 2016).

## Conclusion

In conclusion, young people housed in secure care are a complex and vulnerable segment of the population who could benefit from robust and comprehensive assessments, tailored to their specific needs. Recent data from similar populations has reminded us of the importance of considering cognitive profiles when assessing young people's strengths and weaknesses. Thus, thinking about implementing intervention approaches that would include cognitive assessments as a vital part of formulation could be beneficial, as insight would be gained into the young person's unique cognitive profile, which would subsequently inform



their individualised care plans. This could also allow for an in-depth multidisciplinary and cross campus understanding of the pragmatic needs of these vulnerable young people. The literature concedes that detailed assessments depicting strengths and weaknesses in vulnerable populations is an effective intervention strategy as it allows for tailored care and education plans. These assessments can also be used for educational purposes, to better inform the team around the child. Thus, understanding every aspect of young people's development, including their cognition, could result in young people and secure care facilities becoming better equipped to implement meaningful change.

## References

- Bennett, D. L., Schlüter, D. K., Melis, G., Bywaters, P., Alexiou, A., Barr, B., Wickham, S., & Taylor-Robinson, D. (2022). Child poverty and children entering care in England, 2015–20: A longitudinal ecological study at the local area level. *The Lancet Public Health*, 7(6), e496–e503. [https://doi.org/10.1016/S2468-2667\(22\)00065-2](https://doi.org/10.1016/S2468-2667(22)00065-2)
- Biehal, N. (2010). Belonging and permanence. Outcomes in long-term foster care and adoption. In *Permanent Placements, Making Research Count Seminar*.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard: Harvard University Press.
- Carmichael, N., Allan, L., Austin, I., et al. (2016). *Mental health and well-being of looked-after children*. Fourth Report of Session 2015–2016. House of Commons Education Committee. <https://publications.parliament.uk/pa/cm201516/cmselect/cmeduc/481/481.pdf>
- Chokron, S. (2021). *Testing cognitive functions in children: A clinical perspective*. <https://doi.org/10.1787/5ee71f34-en>
- CYCJ (Children and Young People's Centre for Justice). (2021). *Cycj secure care census finds increase in childhood trauma*. <https://www.cycj.org.uk/news/aces-distance-resilience/>
- Dawson, P., & Guare, R. (2018). *Executive skills in children and adolescents: A practical guide to assessment and intervention* (3rd ed.). Guilford Press.
- Ding, Y. H., Xu, X., Wang, Z. Y., Li, H. R., & Wang, W. P. (2014). The relation of infant attachment to attachment and cognitive and behavioural outcomes in early childhood. *Early Human Development*, 90(9), 459–464. <https://doi.org/10.1016/j.earlhumdev.2014.06.004>
- Dubois-Comtois, K., Bussièrès, E. L., Cyr, C., St-Onge, J., Baudry, C., Milot, T., & Labbe, A. P. (2021). Are children and adolescents in foster care at greater risk of mental health problems than their counterparts? A meta-analysis. *Children and Youth Services Review*, 127, 106100. <https://doi.org/10.1016/j.childyouth.2021.106100>





F. Kaul, Y., Johansson, M., Månsson, J., Stjernqvist, K., Farooqi, A., Serenius, F., & B. Thorell, L. (2021). Cognitive profiles of extremely preterm children: Full-Scale IQ hides strengths and weaknesses. *Acta Paediatrica*, *110*(6), 1817-1826. <https://doi.org/10.1111/apa.15776>

Fry, C. E., Langley, K., & Shelton, K. H. (2017). A systematic review of cognitive functioning among young people who have experienced homelessness, foster care, or poverty. *Child Neuropsychology*, *23*(8), 907-934. <https://doi.org/10.1080/09297049.2016.1207758>

Hawkins, M. A., Layman, H. M., Ganson, K. T., Tabler, J., Ciciolla, L., Tsotsoros, C. E., & Nagata, J. M. (2021). Adverse childhood events and cognitive function among young adults: Prospective results from the national longitudinal study of adolescent to adult health. *Child Abuse & Neglect*, *115*, 105008. <https://doi.org/10.1016/j.chiabu.2021.105008>

Jozefiak, T., Kayed, N. S., Rimehaug, T., Wormdal, A. K., Brubakk, A. M., & Wichstrøm, L. (2016). Prevalence and comorbidity of mental disorders among adolescents living in residential youth care. *European Child & Adolescent Psychiatry*, *25*, 33-47. <https://doi.org/10.1007/s00787-015-0700-x>

Kamath, S. M., Venkatappa, K. G., & Sparshadeep, E. M. (2017). Impact of nutritional status on cognition in institutionalized orphans: A pilot study. *Journal of Clinical and Diagnostic Research (JCDR)*, *11*(3), CC01. <https://doi.org/10.7860/JCDR/2017/22181.9383>

Gonzalez Kelso, I., & Tadi, P. (2022). Cognitive Assessment. In *StatPearls*. StatPearls Publishing.

McCool, S., & Stevens, I. C. (2011). Identifying speech, language and communication needs among children and young people in residential care. *International Journal of Language & Communication Disorders*, *46*(6), 665-674. <https://doi.org/10.1111/j.1460-6984.2011.00037.x>

McGrew, K. S. (2009). CHC theory and the human cognitive abilities project: Standing on the shoulders of the giants of psychometric intelligence research. *Intelligence*, *37*(1), 1-10. <https://doi.org/10.1016/j.intell.2008.08.004>

McMillan, T. M., McVean, J., Aslam, H., & Barry, S. J. (2023). Associations between significant head injury in male juveniles in prison in Scotland UK and cognitive function, disability and crime: A cross sectional study. *PLoS One*, *18*(7), e0287312. <https://doi.org/10.1371/journal.pone.0287312>

Morrison, A. B., & Chein, J. M. (2011). Does working memory training work? The promise and challenges of enhancing cognition by training working memory. *Psychonomic Bulletin & Review*, *18*, 46-60. <https://doi.org/10.3758/s13423-010-0034-0>

Naccarato, T., Brophy, M., & Courtney, M. E. (2010). Employment outcomes of foster youth: The results from the Midwest Evaluation of the Adult Functioning of



Foster Youth. *Children and Youth Services Review*, 32(4), 551-559.

<https://doi.org/10.1016/j.childyouth.2009.11.009>

Raghavan, R., Zima, B. T., Andersen, R. M., Leibowitz, A. A., Schuster, M. A., & Landsverk, J. (2005). Psychotropic medication use in a national probability sample of children in the child welfare system. *Journal of Child & Adolescent Psychopharmacology*, 15(1), 97-106. <https://doi.org/10.1089/cap.2005.15.97>

Raspberry, C. N., Lee, S. M., Robin, L., Laris, B. A., Russell, L. A., Coyle, K. K., & Nihiser, A. J. (2011). The association between school-based physical activity, including physical education, and academic performance: A systematic review of the literature. *Preventive Medicine*, 52, S10-S20.

<https://doi.org/10.1016/j.ypmed.2011.01.027>

Sebba, J., Berridge, D., Luke, N., Fletcher, J., Bell, K., Strand, S., Thomas, S., Sinclair, I., & O'Higgins, A. (2015). *The educational progress of looked after children in England: Linking care and educational data*. In REES Centre Reports. University of Oxford Department of Education/University of Bristol.

The Scottish Government. (n.d.). Secure Care.

<https://www.gov.scot/policies/youth-justice/secure-care/>

Selwyn, J., Wood, M., & Newman, T. (2017). Looked after children and young people in England: Developing measures of subjective well-being. *Child Indicators Research* 0, 363–380. <https://doi.org/10.1007/s12187-016-9375-1>

NSPCC Learning (2021). Statistics briefing: Looked after children.

<https://learning.nspcc.org.uk/media/1622/statistics-briefing-looked-after-children.pdf>

Stevens, S. B., Brice, C. S., Ale, C. M., & Morris, T. L. (2011). Examining depression, anxiety, and foster care placement as predictors of substance use and sexual activity in adolescents. *Journal of Social Service Research*, 37(5), 539-554. <https://doi.org/10.1080/01488376.2011.608338>

Svoboda, D. V., Shaw, T. V., Barth, R. P., & Bright, C. L. (2012). Pregnancy and parenting among youth in foster care: A review. *Children and Youth Services Review*, 34(5), 867-875. <https://doi.org/10.1016/j.childyouth.2012.01.023>

van IJzendoorn, M. H., Luijk, M. P. C. M., & Juffer, F. (2008). IQ of children growing up in children's homes: A meta-analysis on IQ delays in orphanages. *Merrill-Palmer Quarterly*, 54(3), 341–366.

<http://www.jstor.org/stable/23096249>

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